CLAIMS

What is claimed is:

1. An expanded perlite product having a controlled particle size distribution;

wherein the ratio of the standard deviation of particle size distribution to the median particle size is less than 0.63; and

wherein the median particle size is less than 50 microns.

2. The expanded perlite product of claim 1, wherein the ratio of the standard deviation of particle size distribution to the median particle size is less than 0.60.

3. The expanded perlite product of 2, wherein the ratio of the standard deviation of particle size distribution to the median particle size is less than 0.58.

4. The expanded perlite product of claim 3, wherein the ratio of the standard deviation of particle size distribution to the median particle size is less than 0.55.

5. The expanded perlite product of claim 1, wherein the product has a wet density less than 50 pounds per cubic foot.

6. The expanded perlite product of claim 5, wherein the product has a wet density less than 40 pounds per cubic foot.

7. The expanded perlite product of claim 6, wherein the product has a wet density less than 35 pounds per cubic foot.

8. The expanded perlite product of claim 7, wherein said product further has a wet density less than 30 pounds per cubic foot.

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9.   The expanded perlite product of claim 8, wherein the product has a wet density less than 25 pounds per cubic foot.

10.   The expanded perlite product of claim 9, wherein the product has a wet density less than 20 pounds per cubic foot.

11.   The expanded perlite product of claim 1, wherein the product has a floater content of less than 10 percent by volume.

12.   The expanded perlite product of claim 11, wherein the product has a floater content of less than 5 percent by volume.

13.   The expanded perlite product of claim 12, wherein the product has a floater content of less than 2.5 percent by volume.

14.   The expanded perlite product of claim 13, wherein the product has a floater content of less than 2 percent by volume.

15.   The expanded perlite product of claim 1, wherein the product has a blue light brightness greater than 80.

16.   The expanded perlite product of claim 15, wherein the product has a blue light brightness greater than 82.

17.   The expanded perlite product of claim 16, wherein the product has a blue light brightness greater than 83.

18.   The expanded perlite product of claim 17, wherein the product has a blue light brightness greater than 85.

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19.   The expanded perlite product of claim 1, wherein the product has a Hegman fineness greater than 1.0.

20.   The expanded perlite product of claim 19, wherein the product has a Hegman fineness greater than 2.0.

21.   The expanded perlite product of claim 20, wherein the product has a Hegman fineness greater than 3.0.

22.   The expanded perlite product of claim 21, wherein the product has a Hegman fineness greater than 4.0.

23.   The expanded perlite product of claim 22, wherein the product has a Hegman fineness greater than 5.0.

24.   The expanded perlite product of claim 23, wherein the product has a Hegman fineness greater than 6.0.

25.   A process for the preparation of an expanded perlite product of claim 1, the method comprising using air classification equipment to effect both milling and air classification, thereby to obtain the expanded perlite product.

26.   A process for the preparation of an expanded perlite product of claim 1, the method comprising obtaining the product by centrifugal sieving.

27.   A filter, insulating material, filler, horticultural media, hydroponic media, or chemical carrier comprising the expanded perlite product of claim 1.

28.   A method of separating components from a solution, comprising filtering a solution comprising the components through a filter comprising the expanded perlite product of claim 1.

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